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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,607	03/24/2004	Pawel Oskar Matusz	1020.P18644	7219
57035	7590	04/27/2007	EXAMINER	
KACVINSKY LLC C/O INTELLEVATE P.O. BOX 52050 MINNEAPOLIS, MN 55402			LAFORGIA, CHRISTIAN A	
			ART UNIT	PAPER NUMBER
			2131	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No. 10/809,607	Applicant(s) MATUSZ ET AL.
Examiner Christian La Forgia	Art Unit 2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 March 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 March 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948). | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/7/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 have been presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 07 February 2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter of claim 17, specifically a storage medium. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The Applicant defines machine-readable medium as being a multitude of memories on page 9, specifically paragraph 0023. For purposes of examination, the Examiner shall construe the storage medium to be equivalent to the disclosed machine-readable mediums. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-4, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 2 and 8, it is unclear which version of the UMTS Specification the Applicant is referring to and appears to be attempting to cover future versions of the UMTS Specification. Regarding claims 3, 4, and 9, it is unclear which versions

Art Unit: 2131

of the Iub and Iur Specifications the Applicant is referring to and appears to be attempting to cover future versions of the both specifications.

6. Claim 6 recites the limitation "said authentication encoding module" and depends from claim 4. There is insufficient antecedent basis in claim 4 for this limitation in the claim, since claim 5 introduces the limitation "an authentication encoding module."

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 5, 6, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,996,712 to Perlman et al., hereinafter Perlman.

9. As per claim 1, Perlman teaches an apparatus, comprising:

a network interface (Figures 2 and 4 [block 15]) to communicate frames of information in accordance with a protocol (column 3, lines 57-60, i.e. the end station sends data packets to recipients via network interface in a known manner); and

a frame authentication module operatively responsive to said network interface (Figure 2 [block 14]), said frame authentication module to authenticate frames communicated by said network interface (column 4, lines 1-19).

10. Perlman does not teach the use of a wireless protocol.

Art Unit: 2131

11. The Examiner take Official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface of Perlman to implement a wireless protocol, especially since he discloses at column 3, line 60 that any known protocol may be used.

12. Regarding claims 5 and 10, Perlman teaches wherein said authentication module comprises:

an authentication encoding module to encode each frame with authentication information (column 3, lines 50-60, i.e. during a send, creating integrity checks); and

an authentication decoding module to authenticate each frame using said authentication information (column 4, lines 39-63, i.e. recipient decrypts the integrity blocks).

13. With regards to claims 6 and 11, Perlman teaches wherein said authentication encoding module generates said authentication information using an authentication key (i.e. shared secret key), data from said frame (i.e. data bytes from one or more data packets), and a change parameter (column 3, lines 4-25, i.e. selected information, timestamp, packet sequence numbers) (column 3, lines 50-57).

14. As per claims 13 and 17, Perlman teaches a method and an article, comprising:
receiving a frame of information over a medium (column 4, lines 3-6);
determining whether said frame includes authentication information (column 3, lines 60-64, column 4, line 64 to column 5, line 3, i.e. the integrity block may be in a separate packet, the

Art Unit: 2131

authentication information does not have to be in transmitted packet, instead traveling independently);

authenticating said frame using said authentication information (column 4, lines 3-9, column 4, lines 40-63); and

encoding said frame with authentication information if said frame does not include said authentication information (column 6, lines 14-27).

15. Perlman does not teach the use of a wireless protocol.

16. The Examiner take Official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface of Perlman to implement a wireless protocol, especially since he discloses at column 3, line 60 that any known protocol may be used.

17. Regarding claims 14 and 18, Perlman teaches retrieving an authentication key (column 4, lines 39-63, i.e. shared secret key);

duplicating said authentication information using said authentication key (column 4, lines 41-63, i.e. reproducing the integrity checks);

retrieving said authentication information from said frame (column 4, lines 39-63);
comparing said duplicated authentication information with said retrieved authentication information (column 4, lines 43-63); and

authenticating said frame in accordance with said comparison (column 4, lines 43-63).

Art Unit: 2131

18. Regarding claims 15 and 19, Perlman teaches generating said authentication information (column 3, lines 50-58, i.e. generate integrity block); and

storing said authentication information in a spare extension field of said frame (Figure 3 [block 34], column 7, lines 50-67).

19. With regards to claims 16 and 20, Perlman teaches retrieving an authentication key (column 3, lines 50-57, i.e. shared secret key);

retrieving data from said frame (column 3, lines 50-57, i.e. data bytes from one or more data packets);

retrieving a change parameter (column 3, lines 4-25, column 3, lines 50-57, i.e. selected information, timestamp, packet sequence numbers); and

creating said authentication information in accordance with an authentication algorithm using said authentication key, said data, and said change parameter (column 3, lines 50-57).

20. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of **draft 3G TS 22.100**, hereinafter **TS 22.100**.

21. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of **TS 25.427** as applied to claim 7 below, and further in view of **TS 22.100**.

22. Regarding claims 2 and 8, Perlman does not teach wherein said network interface comprises a network interface defined in accordance with the Universal Mobile Telecommunication System Specification.

Art Unit: 2131

23. **TS 22.100** teaches wherein said network interface comprises a network interface defined in accordance with the Universal Mobile Telecommunication System Specification (pages 7-9).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface to comply with the UMTS specification, since **TS 22.100** discloses a number of security features on page 12, which include, but are not limited to, mutual authentication between the user and the serving network, confidentiality of user and signaling data, and end-to-end encryption.

25. Claims 3, 4, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of **3G TS 25.427**, hereinafter **TS 25.427**.

26. Regarding claims 3 and 9, Perlman does not disclose wherein said network interface comprises a network interface configured in accordance with one of an Iub Specification and an Iur Specification.

27. **TS 25.427** teaches wherein said network interface comprises a network interface configured in accordance with one of an Iub Specification and an Iur Specification (Figures 1 and 2, page 7-80).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface to be configured in accordance with the Iub and Iur specifications, **TS 25.427** states at page 7 that all the set of cells are carried on one transport connection, which means there are as many transport connects as set of coordinated transport channels and user ports for that communication, thereby preventing any traffic bottlenecks.

Art Unit: 2131

29. Regarding claim 4, Perlman does not teach wherein said wireless protocol comprises a framing protocol defined by one of an Iub Specification and an Iur Specification.

30. **TS 25.427** teaches wherein said wireless protocol comprises a framing protocol defined by one of an Iub Specification and an Iur Specification (pages 11-21).

31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to format the data packets in accordance with the framing protocol disclosed in the Iub and Iur specifications, since **TS 25.427** states on page 12 that the purpose of the user data frames is to transparently transport the data blocks between the node and the radio network controller.

32. As per claim 7, **TS 25.427** teaches a system, comprising:

a node B system having a first network interface (page 8, Figures 1 and 2, i.e. NB sending and receiving data from SNRC);
a first radio network controller to communicate with said node B system, said first radio network controller having a second network interface (page 8, Figures 1 and 2, i.e. SRNC sending and receiving data from NB).

33. **TS 25.427** does not teach a frame authentication module for each of said first and second network interfaces, said frame authentication module to authenticate frames communicated between said first and second interfaces.

34. Perlman teaches a frame authentication module for each of said first and second network interfaces (Figure 2 [block 14], column 3, line 50, i.e. each end station includes an authentication system), said frame authentication module to authenticate frames communicated between said first and second interfaces (column 4, lines 1-19, column 4, lines 39-63).

Art Unit: 2131

35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the authentication system of Perlman on the systems of Node B and radio network controller, since Perlman states at column 2, lines 2-10 that the authentication system would be fast and uncomplicated and would add robustness to the systems.

36. Regarding claim 12, Perlman and **TS 25.427** do not teach a second radio network controller to communicate with said first radio network controller, said second radio network controller having a third network interface; and a frame authentication module for said third network interface, said frame authentication module to authenticate frames communicated between said second and third interfaces.

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second radio network controller having a third interface with its own frame authentication module, since it has been held that it only requires routine skill in the art to merely duplicate a part, in this case the second radio network controller. See MPEP § 2144.04; see also *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

39. The following patents are cited to further show the state of the art with respect to data authentication, such as:

United States Patent No. 5,440,633 to Augustine et al., which is cited to show authenticating a management data frame.

Art Unit: 2131

United States Patent No. 7,209,464 to Park et al., which is cited to show verification system for packet call processing operations.

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792. The examiner can normally be reached on Monday thru Thursday 7-5.

41. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

42. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christian LaForgia
Patent Examiner
Art Unit 2131

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